

Urban Trees Diversity in Kuching North City and UNIMAS, Kota Samarahan, Sarawak

Zainudin, S. R.*, Mustafa, K. A., Austin, D., Helmy, J. and Lingkeu, D. A.

Department of Plant Science and Environmental Ecology,

Faculty of Resource Science and Technology,

Universiti Malaysia Sarawak,

94300 Kota Samarahan, Sarawak, Malaysia

**E-mail: zsrubiah@frst.unimas.my*

ABSTRACT

Tree species composition often varies widely amongst cities, depending to their geographical locations, urban history, land area or population. The objective of the study was to identify the species diversity of urban trees planted along the roadsides of Kuching North city and Universiti Malaysia Sarawak (UNIMAS), Kota Samarahan. A total of 31,181 trees representing 186 species were sampled. The roadside trees of Kuching North city were more diverse with 176 species of trees while 28 species were recorded from UNIMAS. Inverse of Simpson Index of diversity of the roadside trees in Kuching North city and UNIMAS was 21.0 and 10.7, respectively. In particular, five common species dominated the whole study area with indigenous species dominating UNIMAS, while exotic species exceed indigenous species at roadsides in Kuching North city. Five popular species accounted for one third of the total trees planted with *Mimusops elengi* as the dominant species planted at both sites. All the species recorded from both the study areas were less than 10 % and they complied with the urban forest health status guideline, whereby a diverse tree population might slow or prevent the spread of insects or diseases, and in the event that such pests should become established, the impact on a diverse tree population may be less severe. Data on species floristic composition will assist the local authorities in the planting, maintaining and planning for future replanting activities.

Key words: Urban environment, urban trees, species diversity, *Mimusops elengi*

INTRODUCTION

Landscape planting has been widely regarded as an indispensable urban infrastructure in the attempts to ameliorate stresses arising from artificial covers and to furnish a broad range of environmental benefits (Grey & Deneke, 1986; Miller, 1997). Trees in urban settings play an important role in improving urban life by reducing runoff, air pollution and energy use, and improving human health and emotional well being (Schroeder & Cannon, 1983; Ulrich, 1985; Heisler, 1986; Dwyer *et al.*, 1992; Nowak & Crane, 2000; Nowak &

Crane, 2002; Xiao & McPherson, 2002). The increasing size and proportion of the human population living in towns and cities has also resulted in greater emphasis on the maintenance and improvement of trees within these settings. An understanding of urban floristic composition can help the municipal in managing their resources sustainably. Biological diversity within populations is important in order to minimize plant maintenance needs and disease tolerance of urban tree populations (Richards, 1993; Graves, 1998). Low species diversity may leave the tree population more vulnerable to the new stress environments; both abiotic and

*Corresponding Author